Case study

Developing managerial skills in IT organizations—a case study based on action learning

L. Mathiassen, F. Borum, J.S. Pedersen

Abstract

Information technology (IT) organizations are facing important challenges. They must respond to new technologies and business applications and at the same time provide quality services that satisfy the present needs of their client organizations. The Chief information officer (CIO) of a Danish financial institution experienced increasing problems with internal recruitment of managers with sufficient and suitable competencies to face these challenges. As a consequence, he decided to establish an ambitious in-house training program aimed at developing appropriate managerial skills and attitudes.

The paper presents a number of tales about this training program, each of them told from a different perspective and with varying degrees of interpretation. The paper first describes the training program, its context, the initial design, the process, and the results. The program is then evaluated from different viewpoints: the sponsor and designers, the trainees, and the IT organization. Subsequently, the program is discussed as an action learning activity in which individual learning interacts with the organizational context. Based on these analyses, normative propositions are made about action learning as a strategic thrust for developing managerial skills in IT organizations. © 1999 Elsevier Science B.V. All rights reserved.

Keywords: Action learning; Management of IT; Change strategy; Development of managerial competence

1. Introduction

The rapidly changing information technology (IT) and the increasing demands of organizations and individuals using IT generates considerable pressures on IT organizations, i.e. IT departments in business organizations or software houses operating in the market. IT organizations must perform effectively under present conditions, and, at the same time, they are obliged to frequently change in order to benefit from new technological options. The conventional strategy for IT organizations to meet this challenge is to resort to
technological and structural interventions. This paper discusses a supplementary strategic thrust based on comprehensive in-house training of future IT managers.

The research is based on an interdisciplinary field study (Andersen et al., 1995). It contributes to the ongoing debate within information systems and software engineering research on strategies to professionalize the IT industry (e.g., Couger, 1988; Earl, 1989; Humphrey, 1989; Cash et al., 1992; Mathiassen, 1995). It draws on and exemplifies literature on organizational learning and change (Chin and Benne, 1970; Schein, 1985; Strandgaard Pedersen, 1991; Borum, 1995b; Argyris and Schön, 1996). And it draws on and contributes to the literature on how professionals learn in practice (Evans, 1982; Schön, 1983, 1987; Ballantyne et al., 1995).

The author’s different roles as consultants, trainers, and observers made possible a blend of action research (Argyris, 1970; Borum, 1995a), participant observation (VanMaanen, 1988; Andersen et al., 1995) and traditional case study data generation (Yin, 1994). This combined approach provides a rich insight into organizational phenomena and allows for validation and triangulation between different types of data. The objectivity of our data is, however, limited due to our active involvement. We have therefore structured the argument into distinct tales thereby explicating the underlying views of the presented descriptions and interpretations (VanMaanen, 1988).

The paper describes the training program (Section 2). The program is subsequently evaluated from different viewpoints: the sponsor and designers (Section 3.1), the trainees (Section 3.2), and the IT organization (Section 3.3). The program is then discussed from two related perspectives: as individual learning (Section 4.1) and as part of a dynamic organizational context (Section 4.2). Our experiences are finally summarized as lessons as to the use of action learning to develop managerial competencies in IT organizations (Section 5) and as to proper managerial attention to such strategic thrusts (Section 6).

2. A management training program

The case takes place within a Danish financial institution with approximately 12,000 employees with some 1,000 employees in the internal IT department (Borum et al., 1996). The institution arises from a merger between three independent financial operators each with its own IT organization. One of the strategic decisions in the new IT unit has been to focus on technological and structural integration guided by the slogan: “One institution, one system”.

During the period under consideration (1992–1996) a computer aided software engineering (CASE) tool was adopted, the emphasis on quality in IT services and systems rose, and as in most other organizations the use of distributed IT solutions increased. On top of this, IT management had to reduce staff as part of a general staff reduction policy in the organization, while at the same time trying to raise the IT competence level in the organization.

In this situation, the Chief Information Officer (CIO) experienced increasing problems with internal recruitment of managers with sufficient and suitable competencies to modernize the IT organization. As a consequence, he decided to supplement the other strategic initiatives with an ambitious in-house training program to develop future managers’ skills
Spring 1993: Organization, Strategy and Management (144 class hours)

Module 1. Organizational structure (January 25-27)
Module 2. Cultural analyses (February 8-10)
Module 3. Strategy and management (March 10-11)
Module 4. Decision-making and change processes (April 24-26)
Module 5. Leadership and group process (May 8-10)
Examination (May 17-18)

Fall 1993: Information, Technology and Management (134 class hours)

Module 1. Strategy and problem solving (August 4-6)
Module 2. Quality and quality management (August 25-27)
Module 3. Technological innovation (September 22-24)
Module 4. IT philosophy and practice (October 20-22)
Module 5. Management of technology (November 11-12)
Examination (November 25-26)

Spring 1994: Final project and writing of thesis

Projects in groups of 1-3 involving mentors and a supervisor.
Final examination (June 16-17)

Fig. 1. Summary of courses on major topics.

and attitudes. The manager of human resources was made responsible for the program, and the authors were called in to assist with the program design and as trainers.

The CIO decided to launch the training program during spring 1992. A task force consisting of the program manager, two assistants and an external consultant (one of the authors), was established to design the program. The content was specified as a combination of the following four topics: information, technology and management; organization, strategy and management; economics and finance; and managerial techniques. This curriculum reflects the types of qualifications needed as an IT manager in a financial institution. The first two topics constituted the mainstream of the program whereas the latter two were organized as a parallel track. The task force decided to design the program as an action learning effort (Evans, 1982; Ballantyne et al., 1995) and settled for some basic principles:

- combination of practice and theory, applying theory to situations and problems within the organization;
- apprenticeship model with trainee and mentor roles in practical work-settings;
- rotation of trainees between different departments;
- a university level curriculum that should support critical reflection and organizational learning;
- recruitment of trainers from university institutions;
- examination with external review and grading according to the official Danish scale;
- writing of a final thesis in which theory should be applied to practical managerial problems within the IT unit.
The trainees can be described as follows: age (23–35 years), educational background (programmer or analyst, financial education with 2 years vocational training on top, computer scientist, engineer or economist), reasonable competence in reading professional literature in English, minimum 1–4 years of seniority in the IT unit, ambitions to qualify for a managerial position, and the following personality traits: willingness to make an extra effort, self-confidence, enterprising, extrovert, collaborative, results-oriented, and resolute.

The management training program was designed for 20 trainees and the duration of the study was 1.5 years during which time the trainees were expected to allocate 50% of their working hours to projects and course activities and 50% to management related work. The number of class hours was around 750 to which preparation, project work and thesis writing had to be added. All trainees ended up working in total more than 40 h per week. One of the authors staffed and made a detailed program for ‘Information, technology and management’ together with a team of colleagues, and asked another of the authors to take responsibility for ‘Organization, strategy and management’. This part of the program was designed and implemented in collaboration with two colleagues including the third author. A summary of these modules is shown in Fig. 1.

Internal recruitment of trainees and mentors was organized as a formal application-selection procedure with a round of pre-screening, interviewing and selection seminars. Seventy applications were filed for the 20 traineeships and 16 applicants were found to qualify. Subsequently four section managers were included into the program.

Each module was arranged as a three- or two-day course with overnight stay with approximately four weeks between modules. Guest speakers from the financial institution and from outside the organization were invited to take up a particular subject relevant to the theme in question. Concurrent with the modules the trainees organized several projects involving their mentor and a supervisor. These projects used concepts from the courses to address managerial issues within the organization.

All 20 trainees passed the final examination and, based on all exams, they were evaluated with an average of 8.7 on a 13-scale, where 10–13 indicate excellent work. One year after the training program ended, 18 management trainees were still in the organization.
while two had left for jobs in other companies. Two years after the training program eight trainees occupied managerial positions in a revised organization after the conversion of the IT unit to a profit based software house. Four years after the program a total of seven had left for jobs in another organization. Twelve final theses (in groups of 1–3) and a number of project reports were written, covering a wide range of themes relevant to the IT unit, (see Fig. 2). The reports were read with great interest by top IT managers and mentors. Some of the reports were seen as provocative leading to debate and some were put forward as proposals that were implemented or contributed to launch further analyses.

The training program was regarded as a success and was repeated in 1995 with some modifications: IT-users from outside the IT unit were invited to apply, and a less aggressive internal marketing process was employed to lower the trainee’s expectations of promotion as a guaranteed result.

3. Evaluations

We proceed by assessing the training program and in doing so we apply multiple sources and perspectives (VanMaanen, 1988). The evaluations are expressions of viewpoints held by different groups of actors related to the program and they are based on documents, interviews, a survey, and elaborate narratives written by selected trainees.

3.1. Sponsor and designers

The sponsor and program manager described the motivation for the training program as follows: “Top management in the organization experienced some problems concerning recruitment of IT managers. They decided to solve this problem by launching a training program aimed at increasing the potential for recruiting new managers…Our experience with existing in-house educational programs was good-selecting and teaching some theoretical issues and then combining this with our company’s values and in this way influence the culture”.

The apprenticeship model was suggested in the following way by the sponsor and program manager: “We had recruited some academics a year and a half earlier, who were pretty far away from reality. This meant we had to have some on-the-job-training and a mentor role, which was incredibly important together with organizational rotation of trainees. This gave them some areas to work with and apply their theories to”.

Even though many resources were put into this strategic thrust the sponsor and program manager did not consider it a high risk enterprise: “We were fairly certain that it was necessary to do something and that it was a good idea. It was a low risk project because we had bigger ships sailing at the same time”. In order to secure high quality, trainees and mentors were found through the elaborate selection process and trainers were selected based on personal networks and trust. The external consultant described it in this way: “The organization wanted me to be active in designing the program and selecting the trainers…[it]…wanted to make sure that traditions and sense of quality from existing university education were incorporated”.

All management trainees passed the final examination but cultural influences, network building, organizational development, and an increased focus on management and career
possibilities were added as important effects by the sponsor and the program manager: “Yes, yes, organizational development and attitudes, you can say are side effects of running the program internally. You also build a network for the young people”. In addition, “many of the existing managers saw this as a potential threat and said: What do we do? What educational options does the institution give us? In this way we got a lot of people moving in the entire organization”. Today “the problem we had in 1990—i.e. our middle management—has been improved considerably both by the program, but also by new recruits”. Moreover, the trainee projects from the program contributed to more general changes in the organization: “The projects question our routines and the ways we usually do things around here—some have been used, others have not”.

The sponsor and the program manager found that the loyalty among the organizational members had become less strong. They did not attribute this solely to the program, but also to increased personnel turnover and a change of recruitment profile away from in-house trained, in-house trained, financial people towards people with a higher education (computer scientists, engineers, economists). The sponsor and internal designer found that the program, despite their efforts, created quite unrealistic career expectations among the trainees: “Well, some of them had too high expectations, and had difficulties in understanding us when we said that they also need some skills in other areas, for example, more practical experience”.

3.2. The trainees

Additional evaluations were provided by four trainees. They all had positive evaluations of the program’s action learning approach and of the mainstream of courses on organization and technology. The last three have an academic background and were recruited to the IT unit one year before the start of the training program which to them represented a welcome opportunity for further personal development.

3.2.1. First trainee

With a practical IT background, she had been working for several years in the financial institution. She considered leaving the organization due to lack of future prospects when the program was launched and created new possibilities and career prospects. She was urged to apply, and did not think the selection process too tough. The training program was a positive experience but the mentor arrangement was a dubious concept and a poor experience for her. The de facto shift from having her base in the organization to having the program, as an anchoring point was a strong experience.

The main effects of the program were a better ability to use theoretical frameworks for practical purposes, strengthened personal development, and increased visibility in the organization. She doubted any significant organizational learning effects after the sponsor and program manager were moved to positions outside the IT unit. She eventually decided to leave the organization. Her many years of previous experience and reputation did not count any more, the middle managers “struck back”, and top management backed out of initial promises concerning promotion.
3.2.2. Second trainee

He was encouraged to apply and found the selection procedure tough, describing it as “military style”. The program itself was, however, a positive experience. He mentioned the collective spirit among the trainees in particular, even though the tensions in relation to the latent individualism created existential crises. For him the program resulted in increased awareness of managerial process and of himself. His understanding of organizational phenomena was considerably strengthened.

The program led to some organizational changes, which were positive, but his personal ambitions of a managerial career were not fulfilled. Being moved to another project was frustrating, and he became critical towards the organization that he considered to be rather traditional.

3.2.3. Third trainee

The program was an opportunity for personal development—at a time when she did not have a clear idea as to her future affiliation to the organization or a possible managerial career. She said that the trainees developed into a good team with good discussions and friendships but frustrations occurred during the program, and it was at times difficult for her to strike the balance between individual and collective concerns. She felt that the mentors were of mixed experience.

The effects of the program were mainly positive: personal development and insight into their own strengths and weaknesses; knowledge regarding the organization and business; increased visibility in the organization; and creation of a useful social and professional network. The most negative effect of the program was the defensive reactions on the part of middle managers. She was appointed project manager and developed very good links with centrally placed managers. She considered this acceptable, but she wanted something positive to happen in the near future.

3.2.4. Fourth trainee

He was disappointed and restless due to the lack of challenges. The program was an opportunity for change—albeit not an obvious one. Why take a non-academic degree? On the contrary, it might be a way of getting better exposure and greater managerial attention. His was a positive evaluation of the program as it contributed to his personal development and to his achievement of career goals. With regard to personal aspects it was in particular managerial skills and the ability to interpret and understand organizational phenomena that were most valuable to him.

During the program he was surprised to discover many trainees’ lacking management orientation. He was also disappointed to discover how the organization tried to seal off the trainees from influence and he found that the program manager’s move to another position in the mother organization implied a major set-back for the program in terms of its organizational awareness and impact. His ambitions were satisfied as he was promoted to a position as section head shortly after the program.

3.3. The IT organization

An additional, broader evaluation of the program was conducted through a survey (see
Appendix) which targeted all trainees (20), their mentors (20), and a selection of organizational spectators (20) who did not participate in the program, but who experienced it as ordinary members of the IT unit. With a high response rate (48 out of 60:80%) the survey provided some additional insights:

- Both trainees and mentors (30 out of 32: 94%) found that the program had considerable positive impact on the trainees competence as active participants in transforming and modernizing IT organizations in general. Spectators gave mixed evaluations on this issue.
- In contrast, most trainees, mentors, and spectators (32 out of 48: 67%) found that the competence of the trainees—at the time—had only been utilized a little, or not at all, in transforming and modernizing the organization’s IT activities.
- However, mentors in particular (14 out of 15: 93%) and also most trainees (10 out of 16: 63%) expected that the trainees’ competence would be utilized in the future transformation and modernization of the financial organization’s IT activities. Spectators expressed mixed views on this issue.
- Both trainees (14 out of 17: 82%) and mentors (12 out of 15: 80%) were of the view that the education had meant something or a lot to their own work and personal professional development. For the spectators (13 out of 15: 87%) it had only meant a little or nothing at all.
- Moreover, most mentors (10 out of 15: 67%) found that the program had had considerable effect on other people and activities. Only around half of the spectators (8 out of 16: 50%) and trainees (7 out of 16: 44%) agreed with this. The other half of the spectators and trainees found that the program had had little or no effect.
- Most mentors (12 out of 15: 80%) found that few or no organizational and cultural barriers had prevented effective utilization of the trainees’ competencies in transforming and modernizing the organization’s IT activities. In contrast, most trainees (14 out of 17: 82%) and spectators (9 out of 14: 64%) found that some or many such barriers had prevented effective utilization of their competence.

Based on these data, the trainees, their mentors, and the selection of organizational spectators tend to agree on a number of issues. The program was viewed as a success at the individual level for both trainees and mentors, and the education had meant something or a lot for both these groups: both in terms of their own work and personal professional development. There was also widespread consensus that the trainees’ competencies had so far only been utilized a little—or not at all—in actually transforming and modernizing the organization’s IT activities.

Most respondents found, however, that the program had much or some effect on other people and activities even if the mentors’ evaluations were the most positive, while the two other groups had mixed evaluations. There were other differences between the groups in terms of their predictions regarding the future utilization of the trainees’ competencies and these explain their rather weak utilization thus far in transforming the IT unit. Mentors had high expectations as to the future utilization of trainees’ competencies with trainees having mainly positive expectations, and spectators having mixed thoughts on this issue.

Mentors did not believe organizational and cultural barriers in the IT organization to be major explanations for the weak utilization of trainee competencies. The mentors claimed
that “all members of the IT organization can influence the IT activities… It is entirely an individual responsibility to obtain results and personal impact. The training program has merely established a platform for influence”. In contrast, both trainees and spectators believed organizational and cultural barriers to be major explanations of the limited utilization of trainee competencies at the time of evaluation. In addition, “many managers inside the IT organization considered the trainees as competitors for their jobs”, and there was, as expressed by some of the trainees “a certain level of scepticism or resistance towards theories in the IT organization”.

These different evaluations from the sponsor and designers, from selected trainees, and from the IT organization paint a rather positive picture of the program as an effort to improve the competencies of the participating trainees. At the same time, they point at strengths and weaknesses in the ways in which the program has interacted with the organizational setting in which it was situated. In the following, we will discuss these assessments in more detail before summarizing the argument in the form of recommendations for action.

4. Discussion

The principle of action learning explicitly aims to improve the performance and learning of both individuals and organizations (Ballantyne et al., 1995). In our case, the primary intention was to create a learning environment in which the trainees would develop their competence as IT managers. But it was also the intention that the program should have wider organizational effects and in this way contribute to the ongoing modernization of the IT department. In the following we discuss the individual learning and the rather complex interactions between the program and its organizational context.

4.1. Individual learning

Managers must—besides being equipped with a rich repertoire of technological and organizational frameworks and methods—understand the specifics of the organization in which they work. They must learn to cope with emerging situations in which their repertoires of frameworks and methods may be inappropriate and in which existing traditions may be challenged (Scho¨ n, 1983). This was the rationale for designing a program in which trainees would apply theories to the organization, engage in dialogues with mentors in practical work-settings, and be challenged to understand multiple perspectives through departmental rotation. This action learning model appears to have worked well as a means to train future IT managers and it was highly appreciated by the trainees.

The ambition was to develop reflective practitioners through a process in which “trainees learn by doing, and instructors function more as coaches than as teachers. In the early stages…confusion and mystery reign. The gradual passage to convergence of meaning is mediated—when it occurs—by a distinctive dialogue of trainee and coach in which description of practice is interwoven with performance” (Scho¨ n, 1987, p. 20). During the courses the trainees learned new theories and methods by discussing them and applying them to particular examples. Beyond these simple applications, the trainees were challenged to apply theories and methods to real situations in the IT department both
through the assigned projects and through practical work. These efforts invited them to develop personal interpretations of the material taught in the courses and in some cases led to diagnosis in which they had to go beyond the presented theories to search for new rules and concepts (Schön, 1987, p. 35). According to the trainees this process resulted in three types of individual learning: learning about oneself (personal development), learning about the application of theoretical schemes to practical settings (professional IT management), and increased insight into the organization (organization analysis).

In action learning, trainees practice in two ways. They “engage in the practice they wish to learn. But they also practice, as one practices the piano” (Schön, 1987, p. 38). In our case, this practising took place as social interactions between trainees, mentors, and coaches. The trainees experienced mixed reactions to the apprenticeship model, as the success of the arrangement was strongly dependent on the qualifications and attitudes of the mentor and of the personal relationship between the trainee and the mentor. In contrast, all trainees evaluated group work and dialogue as key ingredients in learning, both about the organization and about personal strengths and weaknesses. This viewpoint is supported by Schön who finds that groups of trainees often successfully play the role of coach to each other thereby helping the individual to learn new habits of thought and action (Schön, 1987, p. 38).

4.2. The context

While all evaluations suggested that the individual learning processes benefited from being integrated into the organizational context of the IT department, other types of interactions between the program and the organizational context were ambiguous and more difficult to interpret.

The increasing problems with recruitment of managers was only one amongst many challenges faced by the IT organization (Section 2). But even though the CIO and other top managers allocated limited time to the program, their commitment and active support was demonstrated in several ways. The resources allocated to the program; the heavy internal marketing of the program; the establishment of a task force to develop the program; participation as guest speakers revealing strategic considerations and plans; their interest in the trainees’ analysis; and their awareness of and efforts to benefit from the program’s side-effects. This high level of commitment and active participation was instrumental in establishing the program and making it a success. Indeed, when the sponsor and the program manager left the IT unit to become engaged in managerial positions in the mother organization, this was seen as a serious setback.

Top management learned from the program. The sometimes provocative analyses of the trainees created a better appreciation of the need for and obstacles to transformation of managerial values and practices. In addition, the trainees challenged top management to clarify their strategic thinking by questioning what should remain the same and what should change. The trainees’ analyses also led to negative reactions both among middle managers and top management on occasion. But as these analyses were legitimate and theoretically founded, it was difficult to discard them. Instead, it became possible to discuss whether negative reactions to a project were due to faulty analyses or defensive routines (Argyris and Schön, 1996).
High status was attributed to the program. Many applied both as trainees and as mentors, but few were chosen through the elaborate selection procedure (Section 2). Taken together with the program’s intended and announced function—as a step in the maturing of persons with a potential as future managers—participation in the program came to signify entry into the managerial world. At the same time, however, the trainees shifted their attachment from their organizational unit to the program, as reflected in the strong network they formed. Even though the network operated as a location for organizational knowledge in which analyses were shared and mobilized for other work-related tasks and events, it represented a subculture that constituted a threat to the dominant culture. The network continued to exist after the completion of the program, occasionally fostering conflict.

The program did have some positive effects on the organizational context, however. Organizational routines and practices were modified based on a number of the trainees’ analyses and proposals, and insights were created not only at the trainee level, but also in managerial positions and networks. The inclusion of the mentor role resulted in most mentors feeling responsible for the trainees’ projects and in their learning about organizational issues—even though the program’s theoretical elements remained distant to them. In this way, the learning processes did improve the middle management (Section 3.1).

A few trainees have now participated as key actors in important change programmes. But the trainees’ competencies have still only been used to a limited extent to transform and modernize the organization’s IT activities. In this sense the outcome has been less successful (i.e. less effective) than anticipated. There is in the organization disagreement on whether the prevailing organizational learning system will promote or inhibit further use of their insights and experiences (Schön, 1983; Argyris and Schön, 1996).

5. Action learning

Our experiences are supported by a similar case where action learning was successfully used within the specific area of strategic information systems planning (Ruohonen, 1990, 1991). In this case 15 managers participated in a series of six seminars and five workshops to learn about strategic information systems planning and more specifically to: evaluate the current IS operation, to increase co-operation between business and IT managers, and to create an information systems strategy for the organization. Experiences from the two cases suggest that action learning is an effective approach to develop management skills in IT organizations. This is not surprising keeping in mind that action learning aims at developing competencies and organizational environments that can cope effectively with uncertainty and change (Ballantyne et al., 1995).

Action learning is a general principle that can be adapted and further developed in specific contexts (Ballantyne et al., 1995). The management training program presented in this paper and the project presented by Ruohonen (1990, 1991) are two such cases, in which the general principles have been used in relation to IT strategy in the context of a particular organization. Action learning was in Ruohonen’s case used to develop an IT strategy. In our case, action learning was used to implement a specific strategic thrust aimed at developing managerial skills in an IT organization. Fig. 3 summarizes our approach to action learning focusing on four dimensions: the underlying pedagogical
principles, the types of knowledge included, the organization of the process, and the key stakeholders involved. For each dimension we offer some lessons and a set of complementary concepts that describe options and challenges involved in organizing in-house training programs to develop managerial skills in IT organizations. We also relate the proposed concepts to the experiences reported by Ruohonen to illustrate how they can be used to reflect upon and design a variety of action learning activities.

5.1. Pedagogical principles

Action learning confronts reality rather than studying a hypothetical situation (Ballantyne et al., 1995). In our case the trainees organized projects on issues that were seen as problems or challenges in the IT organization. At the same time they attended courses on state-of-the-art concepts and methods related to the management of IT. This combination of problem-oriented and discipline-oriented activities represents a fundamental dilemma found in all learning processes: the concrete versus the abstract (Kolb, 1984). Disciplines provide rich sources of inspiration, but they need to be confronted with concrete problems to support effective learning. We recommend combining practical work and projects focusing on managerial problems in the IT organization with courses or seminars on general disciplines related to IT and management. Ongoing structural and technological interventions are useful arenas for projects because they challenge trainees to understand the deeper levels of the organizational culture (Schein, 1985) and to experiment with different strategies for change. On a more practical level trainee projects should have a sponsor and be based on formal contractual arrangements to ensure appropriate organizational commitment and to support useful interaction between trainees and organizational processes.

In Ruohonen’s case the process included issues from disciplines involved in strategic information systems planning, e.g. forces of competition and their effects, alignment of business and information system strategies, and the contents and requirements of information system strategy formulation. But the whole process was organized as a project to
increase co-operation across departments and to develop an information system strategy for the organization (Ruohonen, 1990, 1991). Ruohonen’s case had, in this way, a stronger problem orientation and put relatively less emphasis on disciplines in comparison to our case (Section 2).

5.2. Types of knowledge

IT offers general solutions to information processing problems, but to manage IT effectively we must relate to specific application domains and business needs (Cash et al., 1992; Dahlbom and Mathiassen, 1993). As a consequence, our discipline-oriented course activities emphasized both general knowledge about the use and management of IT, and specific knowledge about the application domain in question, i.e. economics and finance. In this way, the trainees became better equipped to understand and manage the interactions between the IT organization and the customer or client organization. This provision of knowledge and the evaluation of trainee performances were governed by academic virtues to develop each trainee’s higher order skills such as the ability to learn, to ask critical questions in front of risks, and to make sound judgements in uncertain and ambiguous situations (Ballantyne et al., 1995).

A series of seminars and workshops were, in Ruohonen’s case, organized as an iterative process in which general knowledge about strategic information systems planning was presented through lectures, subsequently to be discussed and applied to the organization concerned. This process emphasized both business needs and IT related issues with the purpose of reaching a coherent and holistic view of the strategic use of IT in the organization (Ruohonen, 1990, 1991).

5.3. Process organization

Action learning is primarily work-based rather than classroom-based (Ballantyne et al., 1995). In our case the training program was organized as an integral part of the IT organization to help trainees relate theoretical concepts and methods to real-world problems and to facilitate organizational learning as a result of the program. This integration was achieved through trainee practice and rotation, through apprenticeships and through education projects addressing specific managerial issues related to IT. Highly situated programs do, however, run the risk of being conservative and they tend to create barriers for personal development. We found it useful to detach dedicated course activities from the IT organization so that the trainees were encouraged to think critically and develop new perspectives. This combination of situated and detached activities represents another fundamental dilemma involved in all learning processes: experimenting versus reflecting (Kolb, 1984). At a practical level, we recommend that the resources available for educational activities be governed and protected by formal contractual arrangements to protect the trainees from being overly engaged in daily work routines.

In Ruohonen’s case, the CEO was initially aware of a number of information processing and development problems and he contacted two external consultants to organize a project addressing these problems (Ruohonen, 1990, 1991). The consultants organized the process as an integral part of the ongoing management of the organization. They used dedicated seminars and workshops to create better opportunities for the participants to learn about
strategic information systems planning and think critically about the present use and management of IT in the organization. Compared to our case, the process was highly situated.

5.4. Stakeholders

Action learning is group-oriented and it aims at transforming both individuals and organizations (Ballantyne et al., 1995). In our case the training program was designed to support individual development and, as a side effect, to support organizational change. We attempted to accommodate different goals and we learned that expectations should be carefully adjusted and monitored both before and throughout the training program. To avoid disappointment amongst trainees due to non-promotion after the program, and also to increase the organizational benefits, we recommend providing equal opportunities for trainees to pursue management and professional careers and to make the rewards and prestige of the two complementary career paths similar. Management skills are highly useful in non-management positions, and IT organizations need to have some of its most skilled and experienced members pursue professional rather than managerial careers (Brooks, 1987).

Ruohonen’s case involved both business and IT managers. The process was designed to inform business managers about IT strategy and to develop their understanding of how to incorporate IT issues into their planning. In a similar way IT managers were challenged to learn more about business needs. But the overall goal was not, in contrast to our case, to develop individual skills. It was to establish organization-wide co-operation based on a shared information systems strategy (Ruohonen, 1990, 1991).

6. Management attention

Management training programs are an intersection where organizational and individual agendas meet. They are initiated as a response to organizational issues and problems, but are enacted by individuals. To reconcile the two worlds one has to pay attention to side effects and to individual needs and behaviors. In our case, the program’s symbolic aspects elucidate the discrepancy between top management’s dispassionate, rational approach and the trainees’ emotional, existentialist approach. Top management did not seem to have anticipated fully the expectations raised by the program. Having become aware of the side effects, however, it lowered expectations in the next version of the program so that the trainees understood that participation would not necessarily lead to managerial positions. Management training programs cannot be regarded solely as empirical-rational change strategies (Chin and Benne, 1970). They must be treated as cultural-symbolic interventions (Borum, 1995b) in order to identify their likely implications for the organization and the participants. We recommend using a symbolic perspective to foresee possible significant outcomes of training programs instead of simply relying on top management’s responsiveness to side-effects.

Training programs represent an opportunity for making couplings (Orton and Weick, 1990) looser—for example, detachment of trainees from the daily organization—and tighter—for example between top management and trainees and between different actors’
ideas about present and future practices. This makes improvisation (Weick, 1993) and exploration (March, 1995) crucial ingredients of the management of training programs. We recommend management to initiate other parallel activities, which are loosely coupled to the training program, to exploit information about the organization, the program and the participants that is created as the process unfolds, to reduce the risk for unwanted or dysfunctional effects, to address defensive routines and actions evoked by the program, and, finally, to exploit the unintended positive side effects and opportunities created.

In conclusion, our experiences and findings suggest action learning as a useful approach to develop managerial skills in IT organizations, but management’s attention and willingness to improvise are important prerequisites to successful exploitation of the approach’s potential as a change strategy.

Acknowledgements

Part of this work was funded by the Danish National Centre for IT Research and the Danish Natural Science Research Council (Grant No. 9400911). We also want to thank the financial institution concerned for fruitful collaboration and in particular we want to thank the CIO, the program manager, the mentors, and last but not least, the trainees for their contributions to this research. In addition, we want to thank Ivan Aaen and Kalle Lytinen and the anonymous reviewers for critical and useful comments.

Appendix

Below are the survey questions and results of the organizational evaluation of the program. The survey includes all trainees (20), their mentors (20) and a selection of organizational spectators (20) who did not participate in the program, but experienced it as ordinary members of the IT unit. The survey was carried out via e-mail, and the response rate was 80% (48 out of 60). Originally, the questionnaire asked respondents to provide answers on a four point scale (many–some–a few–none). For reporting purposes the answers have been grouped into two clusters: high (many–some) and low (a few–none).

- How much has the training program improved the trainees’ competence as active participants in the transformation and modernization of IT organizations?
- To what extent has the competence of the trainees been utilized to transform and modernize the organization’s IT activities?
- To what extent do you expect the trainees competence to be utilized in the future transformation and modernization of the organization’s IT activities?
- How much has the training program meant for your work and your personal professional development?
- Which effect did the training program have on other persons and activities?
- How many organizational and cultural barriers prevent effective utilization of the trainees’ competencies in transforming and modernizing the organization’s IT activities?
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**References**


